

**HALLIBURTON**

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# **WPX ENERGY ROCKY MOUNTAIN LLC-EBUS**

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**Federal RG 42-15-298  
SULFUR CREEK  
Rio Blanco County , Colorado**

## **Cement Multiple Stages**

**09-Dec-2013**

## **Post Job Report**

*The Road to Excellence Starts with Safety*

The Road to Excellence Starts With Safety

Sold To #: 300721	Ship To #: 3124394	Quote #:	Sales Order #: 900951557
Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		Customer Rep: Ragsdale, Ted	
Well Name: Federal RG		Well #: 42-15-298	API/UWI #:
Field: SULFUR CREEK	City (SAP): MEEKER	County/Parish: Rio Blanco	State: Colorado
Contractor: CYCLONE 29		Rig/Platform Name/Num: Cyclone 29	
Job Purpose: Cement Multiple Stages			
Well Type: Development Well		Job Type: Cement Multiple Stages	
Sales Person: MAYO, MARK		Srv Supervisor: ARNOLD, EDWARD	MBU ID Emp #: 439784

**Job Personnel**

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
ARNOLD, EDWARD John	15	439784	BROWN, TRAVIS A	15	396848	LAULAINEN, ROGER Edward	15	524413

**Equipment**

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10565341	60 mile	10567589C	60 mile	10989685	60 mile	11259882	60 mile
11808829	60 mile						

**Job Hours**

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
12-8-2013	11.5	5	12-9-2013	3.5	3.5			

**TOTAL** Total is the sum of each column separately

Job				Job Times			
Formation Name	Formation Depth (MD)	Top	Bottom	Called Out	Date	Time	Time Zone
Form Type			BHST	On Location	08 - Dec - 2013	05:30	MST
Job depth MD	3405. ft		Job Depth TVD	Job Started	08 - Dec - 2013	12:45	MST
Water Depth			Wk Ht Above Floor	Job Completed	08 - Dec - 2013	21:22	MST
Perforation Depth (MD)	From		To	Job Completed	09 - Dec - 2013	01:08	MST
				Departed Loc	09 - Dec - 2013	03:30	MST

**Well Data**

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
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**Tools and Accessories**

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container	9 5/8"	1	HES
Stage Tool										Centralizers			

**Miscellaneous Materials**

Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc	%
Treatment Fld	Conc	Inhibitor	Conc	Sand Type	Size	Qty	

**Fluid Data**

Stage/Plug #: 1												
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk			

Stage/Plug #: 1												
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density uom	Yield uom	Mix Fluid uom	Rate uom	Total Mix Fluid uom			
1	Fresh Water Spacer		40.00	bbl	8.33	.0	.0	4				

Stage/Plug #: 1									
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
2	1st Stage HLC Lead Cement	ECONOCEM (TM) SYSTEM (452992)	690.0	sacks	12.8	1.77	9.34	7	9.34
	0.25 lbm	POLY-E-FLAKE (101216940)							
	0.35 %	HR-5, 50 LB SK (100005050)							
	9.34 Gal	FRESH WATER							
3	1st Stage Varicem Tail Cement	VARICEM (TM) CEMENT (452009)	200.0	sacks	12.8	1.96	10.95	7	10.95
	0.3 lbm	POLY-E-FLAKE (101216940)							
	10.95 Gal	FRESH WATER							
4	Displacement		261.00	bbl	8.33	.0	.0	10	
5	Fresh Water Spacer		50.00	bbl	8.33	.0	.0	8	
6	2nd Stage Varicem Cement	VARICEM (TM) CEMENT (452009)	735.0	sacks	12.8	1.96	10.95	7	10.95
	0.3 lbm	POLY-E-FLAKE (101216940)							
	10.95 Gal	FRESH WATER							
7	Displacement		98.00	bbl	8.33	.0	.0	10	
Calculated Values		Pressures		Volumes					
Displacement	358.4	Shut In: Instant		Lost Returns	180	Cement Slurry	534	Pad	
Top Of Cement	SURFACE	5 Min		Cement Returns	0	Actual Displacement	358.4	Treatment	
Frac Gradient		15 Min		Spacers	90	Load and Breakdown		Total Job	982.9
Rates									
Circulating	RIG	Mixing	7	Displacement	10	Avg. Job	8		
Cement Left In Pipe	Amount	27.6 ft	Reason	Shoe Joint					
Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID		
The Information Stated Herein Is Correct				Customer Representative Signature					



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Well Name: Federal RG	Well #: 42-15-298	API/UWI #:	
Field: SULFUR CREEK	City (SAP): MEEKER	County/Parish: Rio Blanco	State: Colorado
Legal Description:			
Lat:		Long:	
Contractor: CYCLONE 29		Rig/Platform Name/Num: Cyclone 29	
Job Purpose: Cement Multiple Stages			Ticket Amount:
Well Type: Development Well		Job Type: Cement Multiple Stages	
Sales Person: MAYO, MARK		Srv Supervisor: ARNOLD, EDWARD	MBU ID Emp #: 439784

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	12/08/2013 05:30							
Pre-Convoy Safety Meeting	12/08/2013 08:00							Including entire cement crew.
Crew Leave Yard	12/08/2013 08:15							
Arrive At Loc	12/08/2013 12:45							Rig still pulling drill pipe. Rig started running casing at 1400. Rig was losing 80 bbl.'s of drilling mud per hour.
Assessment Of Location Safety Meeting	12/08/2013 12:50							Water; PH 7; KCL 200; So4 <200; Fe 0; Calcium 120; Chlorides 0; Temp 76.
Pre-Rig Up Safety Meeting	12/08/2013 18:00							Including entire cement crew.
Rig-Up Equipment	12/08/2013 18:15							1 Elite # 3; 1 660 bulk truck; 2 field storage silo's; 1 hard line to floor; 1 line to upright; 1 line to rig tank. 9.625" compact head. Multi stage job, using customer supplied plug set.
Rig-Up Completed	12/08/2013 20:00							
Pre-Job Safety Meeting	12/08/2013 21:00							Including everyone on location.
Start Job	12/08/2013 21:22							TD 3405; TP 3405; Tool 1265.2; SJ 27.6; OH 14 1/2" to 1200 13 1/2" to TD; Casing 9.625" 36# J-55; Mud
Pump Water	12/08/2013 21:24		2	2			83.0	510 lbs with fresh water.

## Cementing Job Log

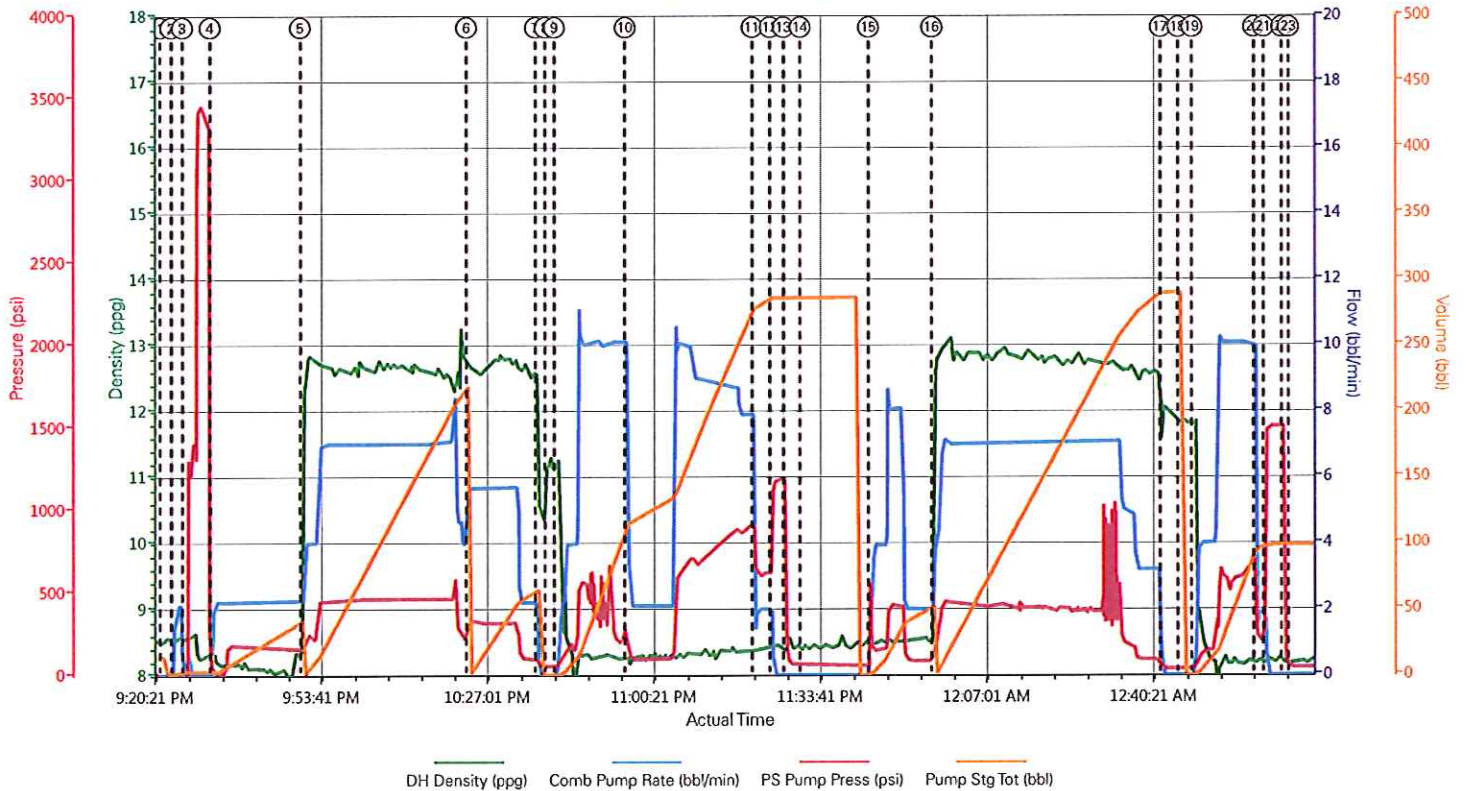
Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Test Lines	12/08/2013 21:26					3474.0		Good pressure test, no leaks.
Pump Spacer 1	12/08/2013 21:31		4	40				40 BBL fresh water spacer. Got returns back with 40 bbl.'s gone.
Pump 1st Stage Lead Slurry	12/08/2013 21:50		7	217.5			453.0	690 sks 1st Stage Lead Cement, 12.8 ppg, 1.77 cf3, 9.34 gal/sk. 3.5 boxes of tuff fiber if the first 100 bbl.'s of cement.
Pump 1st Stage Tail Slurry	12/08/2013 22:23		7	69.8			320.0	200 sks 1st Stage Tail Cement, 12.8 ppg, 1.96 cf3, 10.34 gal/sk.
Shutdown	12/08/2013 22:37							
Drop Plug	12/08/2013 22:39							Plug left container. Customer supplied Bottom plug.
Pump Displacement	12/08/2013 22:40		10	251.1			920.0	Fresh water displacement. Slow rate at 87.8 BBL's gone to 4 BBL/MIN for 20 BBL's to allow wiper plug to pass through tool. Got returns back with 40 bbl.'s gone.
Slow Rate	12/08/2013 23:20		2	10			620.0	Slow rate 10 BBL's prior to bumping the plug. Lost returns when slowing down.
Bump Plug	12/08/2013 23:24				261.1		1170.0	Bumped plug, took 500 PSI over.
Check Floats	12/08/2013 23:26							Floats held, 1 3/4 BBL back. Lost 90 BBL.'s on first stage. No cement to surface from the first stage.
Drop Opening Device For Multiple Stage Cementer	12/08/2013 23:30							Allow 10 min for device to reach tool. Opening pressure at 600 psi.
Next Stage	12/08/2013 23:40							
Pump Spacer 1	12/08/2013 23:43		4	50			430.0	50 BBL fresh water spacer. Pumped till returns came back then mixed up a tub of cement. Got returns back at 37 bbl.'s gone. Tool opened at 520 psi.



## Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pump 2nd Stage Tail Slurry	12/08/2013 23:46		6	252.3			460.0	735 sks 2nd Stage Tail Cement, 12.8 ppg, 1.96 cf3, 10.34 gal/sk. 3.5 boxes of tuff fiber in the last 100 bbl.'s of cement.
Shutdown	12/09/2013 00:42							
Drop Plug	12/09/2013 00:45							Drop closing device for multi stage cementer.
Pump Displacement	12/09/2013 00:48		8	87.8			706.0	Fresh Water displacement. Got returns back at 50 bbl.'s gone.
Slow Rate	12/09/2013 01:00		2	10			206.0	Slow rate last 10 bbl.'s of displacement prior to bumping plug. Lost returns.
Bump Plug	12/09/2013 01:02				97.8		1500.0	Bump plug. Take 1200 over circulating pressure to close tool.
Check Floats	12/09/2013 01:06							Floats held, 1 BBL back. Lost 97 bbl.'s of second stage. No cement returns.
End Job	12/09/2013 01:08							
Pre-Rig Down Safety Meeting	12/09/2013 01:15							Discussed safety and rig down.
Rig-Down Equipment	12/09/2013 01:20							
Rig-Down Completed	12/09/2013 02:30							
Pre-Convoy Safety Meeting	12/09/2013 03:15							Discussed route safety and weather conditions.
Crew Leave Location	12/09/2013 03:30							Crew leaves location.
Other	12/09/2013 03:30							Thank You for using Halliburton. Ed Arnold and Crew.

# WPX - FEDERAL RG 42-15-298 - MULTI STAGE SURFACE STAGE 2



- |                                      |   |   |                                  |
|--------------------------------------|---|---|----------------------------------|
| ① Start Job 8.52;0;-16;13.7          | ⑦ Shutdown 10.72;0;78;64.4              | ⑬ Check Floats 8.41;0;351;286.3                                   | ⑮ Pump Displacement 11.83;0;38;0 |
| ② Prime Pumps 8.51;1.7;21;0.1        | ⑧ Drop Plug 11.23;0;54;0                | ⑭ Drop Opening Device For Multiple Stage Cementer 8.46;0;66;286.3 | ⑯ Slow Rate 8.22;4.7;442;95      |
| ③ Test Lines 8.5;0;-17;2.9           | ⑨ Pump Displacement 11.1;0;55;0         | ⑭ Pump Spacer 1 8.47;2.5;177;1                                    | ⑰ Bump Plug 8.23;0;1437;98.6     |
| ④ Pump Spacer 1 8.23;2.2;26;0.3      | ⑩ Slow Rate for Tool 8.28;5.3;231;115.2 | ⑮ Pump Tail Cement 12.57;3.83;162.85;0.06                         | ⑱ Check Floats 8.21;0;1210;98.6  |
| ⑤ Pump Lead Cement 11.42;2.2;153;0.1 | ⑪ Slow Rate 8.3;2.8;746;279.4           | ⑯ Shutdown 12.06;0;41;290.2                                       | ⑳ End Job 8.18;0;48;98.6         |
| ⑥ Pump Tail Cement 12.69;5.7;329;0.1 | ⑫ Bump Plug 8.43;0;1113;286.3           | ⑰ Drop Plug 11.8;0;37;290.2                                       |                                  |

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Created: 2013-12-08 18:27:54, Version: 3.0.121

Edit

Customer: WPX ENERGY ROCKY MOUNTAIN LLC-  
EBUS

Job Date: 12/8/2013 6:58:17 PM

Well: Federal RG 42-15-298

Representative: TED RAGSDALE

Sales Order #: 900951557

ELITE #3: ED ARNOLD / ROGER LAULAINEN

# HALLIBURTON

## Water Analysis Report

Company: WPX Date: 12/8/2013  
Submitted by: ED ARNOLD Date Rec.: 12/9/2013  
Attention: \_\_\_\_\_ S.O.# 900951557  
Lease FEDERAL RG Job Type: MULTI STAGE SURFACE  
Well # 42-15-298

Specific Gravity	MAX	1
pH	8	7
Potassium (K)	5000	200 Mg / L
Calcium (Ca)	500	120 Mg / L
Iron (FE2)	300	0 Mg / L
Chlorides (Cl)	3000	0 Mg / L
Sulfates (SO <sub>4</sub> )	1500	<200 Mg / L
Chlorine (Cl <sub>2</sub> )		0 Mg / L
Temp	40-80	76 Deg
Total Dissolved Solids		-- Mg / L

Respectfully: ED ARNOLD  
Title: CEMENTING SUPERVISOR  
Location: Grand Junction, CO

**NOTICE:**

This report is limited to the described sample tested. Any person using or relying on this report agrees that no liability shall be made for any loss or damage whether due to act or omission resulting from such report or its use.



<b>Sales Order #:</b> 900951557	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 12/9/2013
<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		<b>Job Type (BOM):</b> CMT MULTIPLE STAGES BOM
<b>Customer Representative:</b> TED RAGSDALE		<b>API / UWI: (leave blank if unknown)</b> AFEYK5HVXKK5U43NAAA
<b>Well Name:</b> Federal RG		<b>Well Number:</b> 42-15-298
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b>	<b>Well State:</b> Colorado	<b>Well County:</b> Rio Blanco

Dear Customer,

We hope that you were satisfied with the service quality of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and service of a standard unmatched in the service sector of the energy industry.

Please take the time to let us know if our performance met with your satisfaction. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of Halliburton.

### CUSTOMER SATISFACTION SURVEY

CATEGORY	CUSTOMER SATISFACTION RESPONSE	
Survey Conducted Date	The date the survey was conducted	12/9/2013
Survey Interviewer	The survey interviewer is the person who initiated the survey.	EDWARD ARNOLD (HX46731)
Customer Participation	Did the customer participate in this survey? (Y/N)	Yes
Customer Representative	Enter the Customer representative name	TED RAGSDALE
HSE	Was our HSE performance satisfactory? Circle Y or N	Yes
Equipment	Were you satisfied with our Equipment? Circle Y or N	Yes
Personnel	Were you satisfied with our people? Circle Y or N	Yes
Customer Comment	Customer's Comment	GREAT JOB GUYS / THANKS

CUSTOMER SIGNATURE

<b>Sales Order #:</b> 900951557	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 12/9/2013
<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		<b>Job Type (BOM):</b> CMT MULTIPLE STAGES BOM
<b>Customer Representative:</b> TED RAGSDALE		<b>API / UWI: (leave blank if unknown)</b> AFEYK5HVXKK5U43NAAA
<b>Well Name:</b> Federal RG		<b>Well Number:</b> 42-15-298
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b>	<b>Well State:</b> Colorado	<b>Well County:</b> Rio Blanco

### KEY PERFORMANCE INDICATORS

General	
<b>Survey Conducted Date</b> The date the survey was conducted	12/9/2013

Cementing KPI Survey	
<b>Type of Job</b> Select the type of job. (Cementing or Non-Cementing)	0
<b>Select the Maximum Deviation range for this Job</b> What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	Vertical
<b>Total Operating Time (hours)</b> Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	8
<b>HSE Incident, Accident, Injury</b> HSE Incident, Accident, Injury. This should be recordable incidents only.	No
<b>Was the job purpose achieved?</b> Was the job delivered correctly as per customer agreed design?	Yes
<b>Operating Hours (Pumping Hours)</b> Total number of hours pumping fluid on this job. Enter in decimal format.	5
<b>Customer Non-Productive Rig Time (hrs)</b> Lost time due to Halliburton in the start, execution, or completion of an ordered service or product, or delays in a follow-on service. Enter in decimal format. 0 if none.	0
<b>Type of Rig Classification Job Was Performed</b> Type Of Rig (classification) Job Was Performed On	Drilling Rig (Portable)
<b>Number Of JSAs Performed</b> Number Of Jsas Performed	5
<b>Number of Unplanned Shutdowns</b> Unplanned shutdown is when injection stops for any period of time.	0
<b>Was this a Primary Cement Job (Yes / No)</b>	Yes

<b>Sales Order #:</b> 900951557	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 12/9/2013
<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		<b>Job Type (BOM):</b> CMT MULTIPLE STAGES BOM
<b>Customer Representative:</b> TED RAGSDALE		<b>API / UWI: (leave blank if unknown)</b> AFEYK5HVXKK5U43NAAA
<b>Well Name:</b> Federal RG		<b>Well Number:</b> 42-15-298
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b>	<b>Well State:</b> Colorado	<b>Well County:</b> Rio Blanco

Primary Cement Job= Casing job, Liner job, or Tie-back job.	
<b>Did We Run Wiper Plugs?</b> Did We Run Top And Bottom Casing Wiper Plugs?	Top
<b>Mixing Density of Job Stayed in Designed Density Range (0-100%)</b> Density Range defined as +/- .20 ppg. Calculation: Total BBLs cement mixed at designed density divided by total BBLs of cement multiplied by 100	95
<b>Was Automated Density Control Used?</b> Was Automated Density Control (ADC) Used ?	Yes
<b>Pump Rate (percent) of Job Stayed At Designed Pump Rate</b> Pump Rate range defined as +/- 1bbl/min. Calculation: Total BBLs of fluid pumped at the designed rate divided by Total BBLs of fluid pumped, multiplied by 100	95
<b>Nbr of Remedial Sqz Jobs Rqd - Competition</b> Number Of Remedial Squeeze Jobs Required After Primary Job Performed By Competition	0
<b>Nbr of Remedial Plug Jobs Rqd - HES</b> Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	0
<b>Nbr of Remedial Sqz Jobs Rqd - HES</b> Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	0